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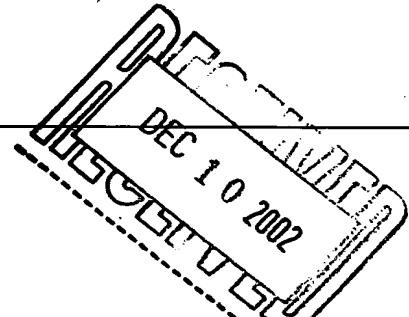
PTO/SB/21 (08-00)

Approved for use through 10/31/2002. OMB 0651-0031
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TRANSMITTAL FORM (to be used for all correspondence after initial filing)	Application Number	10/064,207	
	Filing Date	06/21/2002	
	First Named Inventor	Lin-Kai Bu	
	Group Art Unit	2871	
	Examiner Name		
Total Number of Pages in This Submission	16	Attorney Docket Number	HMOP0001USA

ENCLOSURES (check all that apply)		
<input checked="" type="checkbox"/> Fee Transmittal Form <input type="checkbox"/> Fee Attached <input type="checkbox"/> Amendment / Reply <input type="checkbox"/> After Final <input type="checkbox"/> Affidavits/declaration(s) <input type="checkbox"/> Extension of Time Request <input type="checkbox"/> Express Abandonment Request <input checked="" type="checkbox"/> Information Disclosure Statement <input type="checkbox"/> Certified Copy of Priority Document(s) <input type="checkbox"/> Response to Missing Parts/ Incomplete Application <input type="checkbox"/> Response to Missing Parts under 37 CFR 1.52 or 1.53	<input type="checkbox"/> Assignment Papers (for an Application) <input type="checkbox"/> Drawing(s) <input type="checkbox"/> Licensing-related Papers <input type="checkbox"/> Petition <input type="checkbox"/> Petition to Convert to a Provisional Application <input type="checkbox"/> Power of Attorney, Revocation Change of Correspondence Address <input type="checkbox"/> Terminal Disclaimer <input type="checkbox"/> Request for Refund <input type="checkbox"/> CD, Number of CD(s) _____	<input type="checkbox"/> After Allowance Communication to Group <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences <input type="checkbox"/> Appeal Communication to Group (Appeal Notice, Brief, Reply Brief) <input type="checkbox"/> Proprietary Information <input type="checkbox"/> Status Letter <input type="checkbox"/> Other Enclosure(s) (please identify below):
Remarks		



SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT	
Firm or Individual name	WINSTON HSU
Signature	<i>Winston Hsu</i>
Date	11/20/2002

CERTIFICATE OF MAILING			
I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, Washington, DC 20231 on this date: 11/20/2002			
Typed or printed name			
Signature		Date	

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PTO/SB/17 (10-01)
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FEE TRANSMITTAL for FY 2002

Patent fees are subject to annual revision.

TOTAL AMOUNT OF PAYMENT (\$) 0.00

Complete if Known

Application Number	10/064,207
Filing Date	06/21/2002
First Named Inventor	Lin-Kai Bu
Examiner Name	
Group Art Unit	2871
Attorney Docket No.	HMOP0001USA

METHOD OF PAYMENT

1. ☒ The Commissioner is hereby authorized to charge indicated fees and credit any overpayments to:

Deposit Account Number: 50-0801
Deposit Account Name: North America International Patent Office

☒ Charge Any Additional Fee Required Under 37 CFR 1.16 and 1.17

☐ Applicant claims small entity status. See 37 CFR 1.27

2. ☐ Payment Enclosed:

☐ Check ☐ Credit card ☐ Money Order ☐ Other

FEE CALCULATION

1. BASIC FILING FEE

Large Entity Small Entity

Fee Code	Fee (\$)	Fee Code	Fee (\$)	Fee Description	Fee Paid
101	740	201	370	Utility filing fee	
106	330	206	165	Design filing fee	
107	510	207	255	Plant filing fee	
108	740	208	370	Reissue filing fee	
114	160	214	80	Provisional filing fee	

SUBTOTAL (1) (\$) 0.00

2. EXTRA CLAIM FEES

Total Claims: -20** = X =
Independent Claims: -3** = X =
Multiple Dependent: =

Large Entity Small Entity

Fee Code	Fee (\$)	Fee Code	Fee (\$)	Fee Description
103	18	203	9	Claims in excess of 20
102	84	202	42	Independent claims in excess of 3
104	280	204	140	Multiple dependent claim, if not paid
109	84	209	42	** Reissue independent claims over original patent
110	18	210	9	** Reissue claims in excess of 20 and over original patent

SUBTOTAL (2) (\$) 0.00

**or number previously paid, if greater; For Reissues, see above

FEE CALCULATION (continued)

3. ADDITIONAL FEES

Fee Code	Large Entity Fee (\$)	Small Entity Fee (\$)	Fee Description	Fee Paid	
105	130	205	65	Surcharge - late filing fee or oath	
127	50	227	25	Surcharge - late provisional filing fee or cover sheet	
139	130	139	130	Non-English specification	
147	2,520	147	2,520	For filing a request for <i>ex parte</i> reexamination	
112	920*	112	920*	Requesting publication of SIR prior to Examiner action	
113	1,840*	113	1,840*	Requesting publication of SIR after Examiner action	
115	110	215	55	Extension for reply within first month	
116	400	216	200	Extension for reply within second month	
117	920	217	460	Extension for reply within third month	
118	1,440	218	720	Extension for reply within fourth month	
128	1,960	228	980	Extension for reply within fifth month	
119	320	219	160	Notice of Appeal	
120	320	220	160	Filing a brief in support of an appeal	
121	280	221	140	Request for oral hearing	
138	1,510	138	1,510	Petition to institute a public use proceeding	
140	110	240	55	Petition to revive - unavoidable	
141	1,280	241	640	Petition to revive - unintentional	
142	1,280	242	640	Utility issue fee (or reissue)	
143	460	243	230	Design issue fee	
144	620	244	310	Plant issue fee	
122	130	122	130	Petitions to the Commissioner	
123	50	123	50	Processing fee under 37 CFR 1.17(q)	
126	180	126	180	Submission of Information Disclosure Stmt	
581	40	581	40	Recording each patent assignment per property (times number of properties)	
146	740	246	370	Filing a submission after final rejection (37 CFR § 1.129(a))	
149	740	249	370	For each additional invention to be examined (37 CFR § 1.129(b))	
179	740	279	370	Request for Continued Examination (RCE)	
169	900	169	900	Request for expedited examination of a design application	

Other fee (specify) _____

*Reduced by Basic Filing Fee Paid

SUBTOTAL (3) (\$) 0.00

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SUBMITTED BY

Name (Print/Type)	WINSTON HSU	Registration No. (Attorney/Agent)	41,526	Complete (if applicable)	Telephone	886-2-8923-7350
Signature	<i>Winston Hsu</i>	Date	11/20/2002			

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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Lin-Kai Bu
5 Filing Date: 06/21/2002
Docket No.: HMOP0001USA
Serial No.: 10/064,207
Art unit: 2871

TECHNOLOGY CENTER 2800

NOV 22 2002

RECEIVED

10 Title: METHOD AND RELATED APPARATUS FOR DRIVING AN LCD
MONITOR

To: Assistant Commissioner for Patents
Washington, D.C. 20231

15 Subject: Information disclosure statement under
37C.F.R. §1.56

20 Dear Sir:

This is an Information Disclosure Statement in accordance
with the duty to disclose information material to
patentability under 37 C.F.R. §1.56. Applicant wishes to make
25 of record the document listed on the accompanying form
PTO/SB/08. It is respectfully requested that the examiner
initials the cited reference on the form and that it be made
of record in the application and that a copy of the initialed
form be sent to the applicant with the next communication from
30 the examiner.

Since the IDS is filed before the mailing date of a first
Office action on the merits, consideration of the information
disclosure statement is hereby requested according to
35 37C.F.R. §1.97(b). The prior art patent contained in the
information disclosure statement was cited in communications

from the Taiwan Intellectual Property Office on August 19, 2002. Applicant sincerely request the examiner to consider the item contained in the information disclosure statement.

5 According to the requirement set forth in 37 C.F.R. §1.98 and M.P.E.P. 609 (Rev.1, Feb. 2000), applicant is submitting a copy of the cited reference (Taiwan Patent No. 397,966) and a concise explanation of the cited reference hereinafter.

10 TP No. 397,966 teaches to an improved driving circuit with low power consumption and a precise output voltage. The driving circuit for an LCD monitor includes a voltage generator, a selecting circuit, and an output circuit. The voltage generator is used to generate a plurality of driving voltages. The
15 selecting circuit selects one driving voltage out of the driving voltages generated from the voltage generator, and outputs the selected driving voltage to the output circuit. The output circuit is connected to a data line loading (a pixel for example), and is used to drive voltage level of the data line
20 toward the selected driving voltage. The output circuit has an input port for receiving the selected driving voltage, an output port, a first voltage source, a second voltage source, a first switch connected between the input port and the output port, a second switch connected between the output port and the
25 second voltage source, and at least a transistor.

 Fig.5 is a principal schematic diagram of the improved driving circuit. A drain of the transistor 11, which is a PMOS transistor, is connected to the first voltage source (grounding
30 voltage), a gate of the transistor is connected to the input port 8, and a source of the transistor is connected to the output port 9 that is connected to the data line loading 5. During a first period, the selecting circuit 3 is disabled, and the first switch 12 and the second switch 13 are switched on. Therefore,
35 the transistor 11 is turned off, and the second voltage source drives the data line loading 5. That is, the output voltage of

the output port 9 is pre-charged to V_{cc} . During a second period, the selecting circuit 3 is enabled to output the selected driving voltage V_1 to the input port 8. In addition, the first switch 12 and the second switch 13 are switched off. The data
5 line loading 5, therefore, starts discharging through the transistor 11. The voltage level of output port 9 is lowered from V_{cc} to $(V_1 - V_t)$ wherein V_t is a threshold voltage of the transistor 11. During a third period, the selecting circuit 3 remains enabled for outputting the selected driving voltage V_1
10 to the input port 8, and the second switch remains off. But, the first switch is switched on so that the output voltage of the output port 9 becomes the selected driving voltage V_1 .

The operation of other embodiments of the cited art is
15 similar to the above-mentioned process. The kernel feature of the improved driving circuit is using the transistor to quickly drive the output voltage toward the selected driving voltage and using the first switch to drive the output voltage directly by the selected driving voltage. In other words, the transistor
20 has great driving efficiency but poor driving accuracy. Therefore, the first switch transmitting the selected driving voltage is used to compensate the transistor for acquiring a precise output voltage. Briefly summarized, the cited art fails to teach or suggest that the switches in the output circuit can
25 be used to average output voltages for different data line loadings driven by the same selected driving voltage.

Respectfully Submitted,

30

Winston Hsu

Date: 4/20/2002

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